



PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE Attorney Docket No. 003248.00038

In re U.S. Patent Application of MULLIGAN et al.)
Application No. 10/005,084)
Filed: December 4, 2001) Examiner: Unassigned
For: ALIGNED COMPOSITE STRUCTURES FOR MITIGATION OF IMPACT DAMAGE AND RESISTANCE TO WEAR IN DYNAMIC ENVIRONMENTS	Art Unit: 1774 Art Unit: 1774 Art Unit: 1774
Assistant Commissioner for Patents Washington DC 20231	7 1 > 00 C 1 > 000 C D
	7>00

INFORMATION DISCLOSURE STATEMENT

Sir:

Pursuant to 37 CFR §§1.97-1.98, applicants wish to make the following references of record in the above-identified application. Copies of the references cited below are enclosed. The references also are listed on the enclosed and completed Form PTO/SB/08A.

This Information Disclosure Statement is filed under 37 CFR §1.97(b) within three months of this application's filing date and/or before the mailing of a first Office Action on the merits. Accordingly, there is no fee due for filing this Information Disclosure Statement.

REFERENCES

U.S. Patents

1.	6,063,502	Sue, J. Albert, et al.	May 16, 2000
2.	5,645,781	Popovic', Dragan, et al.	July 8, 1997
3.	4,772,524	Coblenz, William S.	September 20, 1988

Foreign

1. WO 0153059 Goretta, Kenneth C., et al. July 26, 2001

Atty Docket: 003248.00038

Non-Patent Literature Documents

- 1. ' J.J. BRENNAN and K. M. PREWO, "High-Strength Silicon Carbide Fibre Reinforced Glass-Matrix Composites," J. Mater. Sci., 15 463-68 (1980).
- 2. J.J. BRENNAN and K. M. PREWO, "Silicon Carbide Fibre Reinforced Glass-Ceramic Matrix Composites Exhibiting High Strength and Toughness," *J. Mater. Sci.*, 17 2371-83 (1982).
- 3. G. HILMAS, et al., "Fibrous Monoliths: Non-Brittle Fracture from Powder-Processed Ceramics," *Mat. Sci. & Eng. A.*, 195, 263-268 (1995).
- 4. G.E. HILMAS, et al., "SiC and Si₃N₄ Fibrous Monoliths: Non-Brittle Fracture From Powder Processed Ceramics Produced by Coextrusion," Vol. 51 *Ceramic Processing Science and Technology*, pp. 609-14 (1993).
- 5. H. KODAMA, et al., "Silicon Carbide Monofilament-Reinforced Silicon Nitride or Silicon Carbide Matrix Composites," J. Am. Ceram. Soc., 72 [4] 551-58 (1989).
- 6. D. KOVAR, et al., "Fibrous Monolithic Ceramics" J. Am. Ceram. Soc., 80, [10] 2471-2487 (1997).
- 7. P.J. LAMICQ, et al., "SiC/SiC Composite Ceramics," Am. Ceram. Soc. Bull., 65 [2] 336-38 (1986).
- 8. T. I. MAH, et al., "Recent Developments in Fiber-Reinforced High Temperature Ceramic Composites," Am. Ceram. Soc. Bull., 66 [2] 304-08 (1987).
- 9. K.M. PREWO, "Fiber-Reinforced Ceramics: New Opportunities for Composite Materials," Am. Ceram. Soc. Bull., 68 [2] 395-400 (1989).
- 10. J.R. STRIFE, et al., "Status of Continuous Fiber-Reinforced Ceramic Matrix Composite Processing Technology," *Ceram. Eng. Sci. Proc.*, 11 [7-8] 871-919 (1990).

Respectfully submitted

Date: March 15, 2002

Julie B. Ackerman

Registration No. 50,867

Banner & Witcoff, Ltd.

10 South Wacker Drive

Suite 3000

Chicago, Illinois 60606

Telephone: 312-715-1000

Facsimile: 312-715-1234

Approved for use through 10/31/2002. OMB 0651-0031

	U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons an	e required to respond to a collection of information unless it contains a valid OMB control number.
Substitute for form 1449A/PTO	Complete if Vnouve

INCOR	BAATIO	AL DI	001	CIIDI	_
INFOR	IVIA I IU	וט אי	SULU	JOURI	
107 A-1		D\/			_
2147 VF	:MENI	BY /	APPL	ICAN	
					-

 Complete if Known

 Application Number
 10/005,084

 Filing Date
 December 4, 2001

 First Named Inventor
 Mulligan

 Group Art Unit
 1774

 Examiner Name
 Unassigned

 Attorney Docket Number
 003248,00038

5 2002 (use as many sheets as necessary)
Sheet 1 of 1

Numb

Examiner

Initials

Cite

Document Number	Publication Date	Name of Patentee or Applicant of	Pages, Columns, Lines, Where Relevant
ber - Kind Code ² (if known)	MM-DD-YYYY	Cited Document	Passages or Relevant Figures Appear
US 6,063,502	May 16, 2000	Sue, et al.	
US 5,645,781	July 8, 1997	Popovic', et al.	
US 4 772 524	Sent 20 1988	Coblenz William S	

Examiner Initials*	Cite No.1	Foreign Patent Document		Name of Patentee or	Pages, Columns, Lines,	
		Country Code ³ - Number ⁴ - Kind Code ⁵ (<i>if known</i>)	Publication Date MM-DD-YYYY	Applicant of Cited Document	Where Relevant Passages or Relevant Figures Appear	T ⁶
		WO 01/53059 A1	7/26/2001	Goretta, et al.		
		OTHER PRIOR ART NON F	PATENT LITE	RATURE DOCUM	ENTS	
Examiner Initials *	Cite No.1	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.				T²
J. J. BRENNAN and K. M. PREWO, "High-Strength Silicon Carbide Fibre Reinforced Glass-Matrix Composites," J. Mater. Sci., 15 463-68 (1980) J.J. BRENNAN and K. M. PREWO, "Silicon Carbide Fibre Reinforced Glass-Ceramic Matrix Composites Exhibiting High Strength and Toughness," J. Mater. Sci., 17 2371-83 (1982)					Glass-Matrix Composites," J.	
					eramic Matrix Composites	
G. HILMAS, et al., "Fibrous Monoliths: Non-Brittle Fracture from Powder-Processed Ceramics," <i>Mat. Sci. & L.</i> A., 195, 263-268 (1995)			Ceramics," Mat. Sci. & Eng.			
		G.E. HILMAS, et al., "SiC and Si ₃ N ₄ Fibrous Monoliths: Non-Brittle Fracture From Powder Processed Ceramics Produced by Coextrusion," Vol. 51 Ceramic Processing Science and Technology, pp. 609-14 (1993)				
		H. KODAMA, et al., "Silicon Carbide Monofilament-Reinforced Silicon Nitride or Silicon Carbide Matrix Composites," J. Am. Ceram. Soc., 72 [4] 551-58 (1989)				
		D. KOVAR, et al., "Fibrous Monolithic Ceramics" J. Am. Ceram. Soc., 80, [10] 2471-2487 (1997)				
<u> </u>		P.J. LAMICQ, et al., "SiC/SiC Composite Ceramics," Am. Ceram. Soc. Bull., 65 [2] 336-38 (1986)				11.
		T.I. MAH, et al., "Recent Developments in Fiber-Reinforced High Temperature Ceramic Composites," Am. Ceram. Soc. Bull., 66 [2] 304-08 (1987)				MAIP
		K.M. PREWO, "Fiber-Reinforced Ceramics: New Opportunities for Composite Materials," Am. Ceram. Soc. Bu. 68 [2] 395-400 (1989)				
		J.R. STRIFE, et al., "Status of Continuous Fiber-Reinforced Ceramic Matrix Composite Processing Technology," Ceram. Eng. Sci. Proc., 11 [7-8] 871-919 (1990)				1

FOREIGN PATENT DOCUMENTS

Examiner Signature Date Considered

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Applicant's unique citation designation number (optional) . ² See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04.
³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.